Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Title V draft No. V-97-038
NORTH STAR STEEL KENTUCKY
CALVERT CITY, KY.
October 22, 1997
MANESH JAYAGOPAL

SOURCE DESCRIPTION:
Emission Point #1: Natural gas fired reheat furnace used to heat steel billets for rolling.

COMMENTS:
This emission point has emissions primarily from natural gas combustion and some additional particulate emissions from the steel being heated. There is no control equipment.
The emission factors for the particulate emissions have been taken from AP-42 factors for natural gas combustion and a worst case estimate for steel emissions. All other emission factors were derived from stack tests performed on the plant.

There applicable regulation for this point is 401 KAR 59:010 - New process operations. The company has requested a limit on nitrogen oxide and particulate allowables as partial credit to preclude the applicability of 401 KAR 51:017, Prevention of significant deterioration of ambient air.

SOURCE DESCRIPTION:
Emission Point #2: A Schloemann Siemag/Danieli rolling mill with a steel processing capacity of 100 tons per hour

COMMENTS:
This emission point has particulate emissions generated from the rolling operation. The emission factors were calculated taking a worst case engineering estimate. The heavy metals present in trace quantities in the steel are considered to be emitted as particulates and not as toxics as they are bonded in the steel.

The applicable regulation for this point is 401 KAR 59:010 - New process operations.

The source is required to limit the particulate emissions and has requested a limit lower than the allowable per 59:010 as partial credit to preclude the applicability of 401 KAR 51:017, Prevention of significant deterioration of ambient air.. The visible emissions shall be kept below 20%.

SOURCE DESCRIPTION:
Emission Pont #3: A Telisis ink stenciling machine used to stencil markings on to the rolled steel with a maximum paint usage rate of 0.5 gallons per hour and a thinner usage rate of 1.5 gallons per hour.

COMMENTS:
The emissions from this point are the particulates and VOC's from the paint and thinner used at this emission point. The particulate emissions are calculated assuming that all the particulates not on the steel coils (overspray factor = 0.5) are emitted to the atmosphere. The VOC emissions are taken to be all the VOC's present in the paint and thinner.

The applicable regulations for this point are 401 KAR 53:010, Ambient air quality standards, and other generally applicable regulations. State regulation 401 KAR 63:022, New or modified sources emitting toxic air pollutants, does not apply as all emissions of regulated toxics are below their respective ASL's.

The source has requested a limit on the particulate allowable as partial credit to preclude the applicability of 401 KAR 51:017, Prevention of significant deterioration of ambient air.

SOURCE DESCRIPTION:
Emission Point #4: Two Evapco process water cooling towers with a total maximum capacity of 131,100 gallons of water per hour.

COMMENTS:
The particulate emissions from this point are from the dissolved solids in the water being processed through the cooling towers. The emission factors were taken from AP-42 for process cooling towers.

The applicable regulation is 401 KAR 63:010, Fugitive emissions.

Regulation 40 CFR 63, Subpart Q, National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers does not apply to this emission point as chromium-based water treatment chemicals are not be used.

SOURCE DESCRIPTION:
Emission Point #5: Haul roads - various paved and unpaved road within the plant boundaries used to transport equipment, material, personnel etc.

COMMENTS:
The fugitive particulate emissions generated as a result of vehicular traffic over these roads are represented as being from one emission point.
The emissions rate were calculated using AP-42 factors and the total maximum traffic on these roads. The applicable regulation is 401 KAR 63:010, Fugitive emissions.